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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,211	05/21/2007	Hans Christian Christensen	43315-232755	5069
26694	7590	11/16/2007		
VENABLE LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998			EXAMINER RAPP, CHAD	
			ART UNIT 2125	PAPER NUMBER
			MAIL DATE 11/16/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/584,211	Applicant(s) CHRISTENSEN ET AL.	
	Examiner Chad Rapp	Art Unit 2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05/21/07 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/21/07</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 1-14 are presented for examination.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: power network reference numeral one not disclosed in figure one. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: There is no description in specification of figure 6.

Appropriate correction is required.

Claim Objections

4. Claim 11 is objected to because of the following informalities: It is believed that claim 11 should refer back to claim 10 instead of claim 8. Because claim 10 discloses "first operational condition". For the purposes of this office action claim 11 will refer back to claim 10. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, line 8 "the operation" should be changed to "an operation". There is insufficient antecedent basis for this limitation in the claim.

As to claim 2, line 2 "the second path" should be changed to "the second branch". There is insufficient antecedent basis for this limitation in the claim.

As to claim 6, line 10 "the open position" should be changed to "an open position". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duggal et al. in view of Morita et al..

Duggal et al. teaches the claimed invention (claim 1) substantially as claimed including a device for controlling at a fault condition an apparatus connected by a connection line to a grid point of a transmission net in an electric power network, the device comprising:

- a. A voltage raising means is taught as a current limiting device. The current limiting device switches resistance state from low to high. Ohm's Law states $V=IR$. V =voltage, I =current, R =resistance. As the current limiting device raises the resistance in effect it raises the voltage based on Ohm's Law which is well known equation(col. 4 lines 43-46);
- b. A first branch connected to the grid point is taught as the first branch (figure 1 part 110);
- c. A switching means is taught as a main switch (col. 2 line 57);
- d. A second branch comprising a current resisting means is taught as second branch with the current limiting device (figure 1 part 11 and 18);
- e. Wherein the voltage raising means comprises a computer means for signal processing of a sensed fault condition on the network is taught as controller can be a computer(col. 4 lines 8-9);
- f. For affecting the operation of the switching means such that on a fault condition at least part of the current is diverted through the voltage raising means is taught as predetermined condition(fault) is monitored a signal is sent to open switch to make current divert(col. 4 lines 19-27).

Duggal et al. teaches the above listed details of the independent claim 1, however, Duggal does not teach: for evaluation of further actions.

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Morita et al teaches:

a. For evaluation of further actions is taught as first set level and second set level(abstract).

It would have been obvious to one of ordinary skill at the time the invention was made or used to modify the teachings of Duggal et al with teachings of Mortia et al. because when a of voltage of the power lines upstream of the tripped circuit breaker is significantly limited. Thus , drop of voltage supplied to other power lines connected to the same BUS or transformer as the failed power line is remarkably suppressed to realize a highly reliable supply of the electrical power and also allows for a predetermined time before the power lien is disconnected taking in account for transients on the lines.

As to claim 2, Duggal et al. teaches wherein the switching means comprises a power switch for diverting the current to the second path is taught as a main switch (col. 2 line 57);

As to claim 3, Duggal et al. teaches wherein the current resisting means comprises a resistor element is taught as the current limit device switches form resistance state(col. 4 lines 43-44).

As to claim 5, Duggal et al. teaches wherein the computer means comprises a memory means is taught as computer(col. 4lines 8-9).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Duggal et al. in view of Morita et al. and further in view of Lewis.

Duggal et al. teaches the claimed invention (claim 1) see paragraph 6 above.

As to claim 4, Lewis teaches wherein the current resisting means comprises an autotransformer.

It would have been obvious to one of ordinary skill at the time the invention was made or used to modify the teachings of Duggal et al with teachings of Lewis because the transformer is used to maintain the voltage of the system relatively constant using a tapped autotransformer circuit.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duggal et al. in view of Duffy et al..

Duggal et al. teaches the claimed invention (claim 6) substantially as claimed comprising:

- a. A transmission net is taught as transmission (figure 1 part 31);
- b. A connection line operative to connect the first apparatus and the second apparatus
- c. A grid point of the transmission net by a connection line is taught as grid point (figure 1)
- d. The line comprising a control device is taught as computer (col. 4 lines 8-9);
- e. A voltage raising means is taught as a current limiting device. The current limiting device switches resistance state from low to high. Ohm's Law states $V=IR$. V =voltage, I =current, R =resistance. As the current limiting device raises the resistance in effect it raises the voltage based on Ohm's Law which is well known equation (col. 4 lines 43-46);
- f. A first branch is taught as the first branch (figure 1 part 110);
- g. A switching means is taught as a main switch (col. 2 line 57);

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h. A second branch containing a voltage raising means is taught as second branch with the current limiting device (figure 1 part 11 and 18).

i. Whereby the switching means in the open position diverts the current into the second branch is taught as predetermined condition(fault) is monitored a signal is sent to open switch to make current divert(col. 4 lines 19-27).

Duggal et al. teaches the above listed details of the independent claim 6, however, Duggal et al. does not teach: a first apparatus, a second apparatus and a connection line operative to connect the first apparatus and the second apparatus.

Duffy et al. teaches:

- a. A first apparatus is taught as first apparatus(figure 2a part 122);
- b. A second apparatus is taught as second apparatus(figure 2a part 12);
- b. A connection line operative to connect the first apparatus and the second apparatus is taught as connection if switch is closed(figure 2a).

It would have been obvious to one of ordinary skill at the time the invention was made or used to modify the teachings of Duggal et al with teachings of Duffy et al. because Duffy et al. allows the use of more than one apparatus which allows the system to be used on large systems not just being restricted to one apparatus.

As to claim 7, Duggal et al. teaches wherein the control device comprises a computer means is taught as controller can be a computer(col. 4 lines 8-9);

As to claim 8, further comprising: sensing means for sensing a fault condition on the net is taught as a control monitoring current(col. 3 lines 26-31).

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As to claim 9, Duggal et al. teaches further comprising: communication means for exchanging signals between the control device, sensors and actuators is taught as control sends trigger to a driver circuit(col. 3 lines 27-28).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duggal et al. in view of Morita et al..

Duggal et al. teaches the claimed invention (claims 10 and 12) substantially as claimed including a method for controlling at a fault condition an apparatus connected by a connection line to a grid point of a transmission net in an electric power network, the method comprising:

a. Sensing the fault condition is taught as a control monitoring current(col. 3 lines 26-31).

b. Introducing a first operational condition for the apparatus under a first period of time is taught as predetermined condition(fault) is monitored a signal is sent to open switch to make current divert(col. 4 lines 19-27).

Morita et al. teaches:

a. Evaluating during the first period of time a second operational condition to be introduced is taught as first set level(abstract);

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b. Introducing the second operational condition starting a second period of time for further evaluation of conditions to be introduced is taught as second set level (abstract).

It would have been obvious to one of ordinary skill at the time the invention was made or used to modify the teachings of Duggal et al. with teachings of Morita et al. because when a drop of voltage of the power lines upstream of the tripped circuit breaker is significantly limited. Thus, drop of voltage supplied to other power lines connected to the same BUS or transformer as the failed power line is remarkably suppressed to realize a highly reliable supply of the electrical power and also allows for a predetermined time before the power line is disconnected taking in account for transients on the lines.

As to claim 11, Duggal et al. wherein the first operational condition comprises the diversion of current to pass a voltage raising means is taught as predetermined condition (fault) is monitored a signal is sent to open switch to make current divert (col. 4 lines 19-27).

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duggal et al. in view of Morita et al. and further in view of Hubert et al. ..

Duggal et al. and Morita taught the claimed invention (claims 10 and 12) see paragraph 8 above.

As to claim 13, Hubert et al. teaches wherein the computer program instructions are further for providing the computer program instructions at least in part over a network is taught as power network (col. 4 lines 66-67).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Duggal et al. with teachings of Hubert et al. because the internet allows remote monitoring and many reference data base online.

As to claim 14, Hubert et al. teaches wherein the network comprises the internet is taught as monitored remotely(col. 5 lines 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Duggal et al. with teachings of Hubert et al. because the internet allows remote monitoring and many reference data base online.

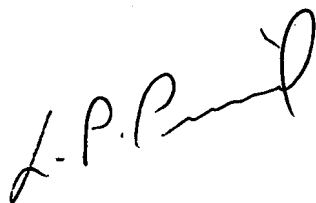
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chad Rapp whose telephone number is (571)272-3752. The examiner can normally be reached on Mon-Fri 11:00-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571)272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Chad Rapp
Examiner
Art Unit 2125

cjr

LEO PICARD
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